

The Remarks of
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Two years ago, I challenged this group to give operational commanders more tactical options than forcing a young soldier to decide whether he shoots a rioter with a 9mm or M-16. Events of the last three weeks would seem to indicate I should have raised the cross bar and asked the question - how do we give the president of the United States more options than just bombing some one with stand off weapons? I would argue that for the same reason why we have not made much progress in the tactical non-lethal area is exactly why we could not use non-lethal weapons at the strategic level. It is because we have a bias toward kinetic weapons. We are willing to spend huge sums of money on improving kinetic weapons while at the same time we fight to allocate a few million to non-lethal weapons.

For fifty years we defined our security in a single dimension against a fixed opponent. It was the US and NATO against the Soviet Union. Foreign policy was a zero sum game. As a result the current U.S. military establishment is a highly evolved Industrial Age Institution. It was designed to operate in the post-World War II geo-strategic environment. A nation's power could be measured by combining its military and industrial strength. For the most part, change was gradual. The sudden collapse of the Soviet Union served as a clear indication that this model was no longer valid, and the non-military factors have gained a much more prominent position in how people define security.

Since the fall of the Berlin Wall, the geo-strategic environment we live in continues to change rapidly. Although military capability remains important, economic strength has replaced military power as the primary indicator of global influence. The nation-state has surrendered much of its power and influence to non-state actors such as the IMF. In the "developed world," permeable borders and trans-national institutions have gained tremendous influence in what were once the exclusive domains of national governments.

Today's decisions by Washington are increasingly based on America's interdependence in a global economy. While US residents constitute only 5% of the global population, they "own" 50% of the world's \$15.5 trillion retail mutual and private pension fund assets.

From an American perspective, the requirement to be globally engaged, both diplomatically and militarily, is a natural outgrowth of the globalization of our economy. However, in the eyes of most non-Americans, globalization means much more than just cross-boarder economic activity. Globalization to them connotes the Americanization of the world - or as many in Europe would argue as a result of last week's events - Thucydides dictum Large nations do what they can small nations suffer what they must. Many in the developing world globalization as a serious threat to their societies and cultures. Thus, many are quick to react negatively to globalization and in some case attack the symbol of their anger and unfortunately often times it is an American citizen. Or as happened last week in Indonesia where ethnic Chinese representing only 4 percent of a 200 million person population became the scapegoat of the Indonesian economic crisis in part because they hold 70 percent of the nation's wealth and many were injured during the anti-Chinese riots.

Weak central government, combined with the explosion of information technologies needed to manage a modern economy and government, are the primary

reasons why many countries like Albania just a year and a half ago can quickly collapse. Tirana lacked the modern "software" needed to monitor its own monetary system. Nationwide "Ponzi" schemes outmaneuvered the central government's ability to regulate its own currency. The result was a total collapse of the government's authority, widespread chaos, and a wave of illegal migration and weapons across unregulated borders that threatened regional stability.

Like Albania, the vast majority of mankind has not benefited from the profound changes in the developed world. Rather, most "countries" in the developing world continue to struggle with rapid population growth, widespread famine and disease, environmental damage and governments too weak or corrupt to deal with the needs of their populations. These factors have generated increased social unrest and massive migration - not only from the failed states that dominate the evening news, but also from the failing states that are usually ignored until they too collapse.

Global demographics will force us to pay closer attention to global problems that have traditionally posed only an indirect threat to our security. Population growth is quickly becoming one of the more important variables in the emerging security environment. Those of us born before 1950 have seen more population growth than in the previous four million years.

At the beginning of the industrial age there were an estimated 7 million slum dwellers today there are an estimated 700 million people living in slums.

Civil strife in countries such as Haiti, Bosnia, Cambodia and Zaire generates enormous pressure on its population to leave home for a better life abroad. This, in turn, creates tremendous pressure on likely destination countries - like the United States - thus turning illegal immigration into a security problem.

The scale of these demographic changes is often lost on those of us who are fortunate to live in the developed world. Most of us would be surprised to learn that we could shrink the earth's population to a village of 100 people with all existing ratios remaining the same, in that village of 100 there would be 57 Asians, 21 Europeans, 14 people from the Western Hemisphere (North & South America) and 8 Africans. Seventy of these villagers would be non-white. Thirty would be Christian. Fifty percent of the entire wealth would be in the hands of 6 people - all from the United States. Seventy people would be unable to read, fifty would suffer from malnutrition, and 80 would live in sub-standard housing. Only one person in the village would have a college education.

What we are seeing is really a growing income gap between the rich and the poor. Never before has the wealth disparity been great. And because of the widespread availability of global communications, never before has this disparity been equally visible to those at the top and bottom of the economic continuum. Unlike the ideologically based, correlation of forces model used during the Cold War, just ten years ago or its balance of power predecessor, was an industrial age function - today's security challenges are multi-dimensional and often transcend the power and authority of affected nation-states.

Consider for a moment a recent report from the World Watch Institute, what does it mean for you if I said there were more than 500 million military weapons available on the world market and that in Australia, South Africa and the United States there are more security guards than there are soldiers in the military. Spending for private security now

amounts to more than 50 billion dollars. More than the police budget of every nation of the world and most military except the US and Russia.

While the military can treat some of the symptoms of this changed security environment, it is not well suited to deal with the root causes such as population growth, lack of economic development, or environmental degradation.

Therefore, security is increasingly derived from an aggregate of political, economic, cultural and military factors. The conflict in the Balkans is rooted in intractable cultural divisions that no amount of conventional military force can realistically hope to solve. You can put all of NATO into Bosnia and until you address the cultural and economic problems you will not be successful.

Today, "instability" constitutes the primary threat to security in all its dimensions. Instability anywhere affects everyone in a global economy. Moreover, with global communications and permeable borders, it can overcome nearly every effort to contain it. Our strategy of the future require multi-faceted engagement at all levels.

Throughout history, we have waged warfare using the same technologies and techniques that we used to create wealth. Agricultural societies fought with peasant armies. The Industrial Age brought about the mass production of weapons, tanks and airplanes. Massive armies were moved and supplied by vast networks of rail, sea, air and road transport.

The Information Age is making such industrial age concentrations lucrative targets. The Gulf War was but a crude preview of how precision, high-tech weapons are changing the dynamics of the battlefield. During the Gulf War, one F-117 sortie with laser guided bombs was able to destroy the same types of targets that required 1500 B-17 sorties in 1943, and 176 F-4 sorties in 1970. As a result, our historical reliance on mass decreasing as the precision and lethality of weapons increases exponentially. We must therefore recognize that the most critical parameter in future conflicts will be time. By skillfully using there non-lethal tools of the Information Age, we should be able to prevent conflict in most cases, and bring others to a speedy conclusion with minimal friendly casualties. This is very important because the Achilles heel of any deployment of US forces is the willingness of the US Congress to sustain overseas deployment of US forces. I would only point to events in Somalia, Haiti and Bosnia to make the point.

By 2010, our information systems will be capable of transmitting and processing 1.5 trillion bits of information a minute. This represents an exponential increase over time. In World War I we put 4 thousand soldiers in a 10 km² area and talked to them at a rate of 66 words per minute. Today we put 24 soldiers in the same space and talk to them at a rate of 192K words per minute. Tomorrow we will reduce that number to 3 soldiers and give them 1.5 trillion bits of information. What this issue really boils down to is that there is a trade-off between order battle, readiness and modernization. During the cold war order of battle or force structure was important. Today modernization and readiness is more important. Large standing formations are an impediment to progress.

However these information and technology systems can be obtained by small as well as large nations. This means that in the future, a "David vs. Goliath" will characterize tomorrow's battlefield, the David of tomorrow has access to a veneer of technology that gives him more than a fighting chance to inflict serious casualties on US forces. This is especially true in the air defense area, where the commercial market is

flooded with relatively cheap, high quality, anti-aircraft weapons capable of shooting down a \$70 million tactical aircraft.

In conclusion, let me say that the type of security landscape I am suggesting is manageable but in order to prosper we need to put a greater focus on harnessing the *intellectual* capital of our laboratories and the bright young people in this global village. We can not continue to rely on just kinetic military options. If we do, we do ourselves and the people we are paid to protect a great disservice. Thank you and thank you for the work you have done.